

## REMARKS

### STATUS OF THE CLAIMS

In accordance with the foregoing, no claims have been amended. New claim 20 has been added. Claims 1-20 are pending and under consideration.

No new matter is being presented, and approval and entry of the amended and new claims are respectfully requested.

### REJECTIONS OF CLAIMS 1-2, 4-6, 9-11, 13-15 AND 18-19 UNDER 35 U.S.C. §102(b) AS BEING ANTICIPATED BY KRUEGER ET AL. (U.S. PATENT NO. 6,195,735 B1)

The rejections of claims 1-2, 4-6, 9-11, 13-15 and 18 are respectfully traversed and reconsideration is requested.

Independent claims 1, 10 and 19 recite performing a prefetch request to prefetch a branch target instruction when a branch instruction is decoded, otherwise performing the prefetch request sequentially to prefetch instructions; and prefetching the branch target instruction to said prefetch buffer when a branch is ensured to occur by executing the branch instruction, while ignoring the branch target instruction when a branch does not occur.

On page 3 of the Action, the Examiner states that Krueger discloses performing a prefetch request to prefetch a branch target instruction when a branch instruction is decoded, otherwise performing the prefetch request sequentially to prefetch instructions, citing Krueger, column 13, lines 13-17.

However, the cited portion of Krueger merely states that the access controller 22 may either issue a received prefetch request as is to L2 unified cache 20, suppress the fetch request, or modify it to cause the modified prefetch operation beginning at L2 unified cache 20.

In other words, the cited portion Krueger fails to teach or even suggest performing a prefetch request *when a branch instruction is decoded*, and otherwise performing the prefetch request sequentially, as recited in independent claims 1, 10 and 19.

Moreover, in the Response to Arguments, on page 11, item 7, of the Action, the Examiner states that Krueger discloses that prediction methods are used when prefetching, thus if a branch is ensured to occur, the prediction method would cause a prefetch to occur. If a branch were ensured to not occur, then the prediction would not cause the prefetch to happen (citing Krueger, column 9, lines 14-17).

Krueger discusses a prediction method that determines if there exists an entry corresponding to the data fetching instruction. If so, and based on the prediction and possibly other information corresponding to the data fetching instruction, a prefetch request may be

issued. (See Krueger, column 9, lines 14-28). However, the cited portion of Krueger does not mention that the branch target instruction is ignored when a branch does not occur, as recited in independent claims 1, 10 and 19

Therefore, it is respectfully submitted that independent claims 1, 10 and 19, as well as the pending dependent claims, patentably distinguish over the prior art.

**REJECTIONS OF CLAIMS 7-8 AND 16-17 FOR OBVIOUSNESS UNDER 35 U.S.C. §103(a) AS BEING UNPATENTABLE OVER KRUEGER IN VIEW OF HANAWA ET AL. (U.S. PATENT NO. 5,269,007)**

Claims 7-8 depend from independent claim 1 and claims 16-17 depend from independent claim 10. Claims 7-8 and 16-17 inherit the patentability of their respective base claim and, thus, it is respectfully submitted that claims 7-8 and 16-17 patentably distinguish over the prior art.

Further, Hanawa et al. is merely cited as disclosing allowing, when a delayed branch instruction appears, a branch to occur following an instruction subsequent to the delayed branch instruction; and an unconditional branch instruction. Therefore, it is respectfully submitted that Hanawa et al. also fails to teach or suggest the features of the independent claims.

**REJECTIONS OF CLAIMS 3 AND 12 FOR OBVIOUSNESS UNDER 35 U.S.C. §103(a) AS BEING UNPATENTABLE OVER KRUEGER IN VIEW OF DEAN (U.S. PATENT NO. 5,544,342)**

Claims 3 and 12 depend from independent claims 1 and 10, respectively, and inherit the patentability thereof. Thus, it is respectfully submitted that claims 3 and 12 patentably distinguish over the prior art.

Further, Dean is merely cited as disclosing a control signal canceling the prefetch request, which has been performed to prefetch the branch target instruction, when the branch does not occur, to thereby prevent the access to the main memory, the access being caused by a cache miss. Therefore, it is respectfully submitted that Dean also fails to teach or suggest the features of the independent claims.

**NEW INDEPENDENT CLAIM 20**

New independent claim 20 recites:

An information processing apparatus, comprising:  
means for prefetching and storing an instruction through a bus with a width at

least twice as large as the length of the instruction;

means for performing a prefetch request to prefetch a branch target instruction when a branch instruction is decoded, otherwise performing the prefetch request sequentially to prefetch instructions;

means for prefetching the branch target instruction when a branch is ensured to occur by executing the branch instruction; and

means for ignoring the branch target instruction when a branch does not occur.

Therefore, it is respectfully submitted that independent claim 20 patentably distinguishes over the prior art, for at least the reasons provided above for independent claims 1, 10 and 19.

#### REQUEST FOR EXAMINER INTERVIEW

If the Examiner remains unconvinced by the foregoing arguments, the Examiner is respectfully requested to contact the undersigned to schedule an Examiner interview to discuss the features of the claimed invention and the cited art.

#### INFORMATION DISCLOSURE STATEMENT

An Information Disclosure Statement was filed July 31, 2006. Acknowledgement and consideration of the references cited therein are respectfully requested.

#### CONCLUSION

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. Further, all pending claims patentably distinguish over the prior art. There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

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Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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